BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, DC 20554

In the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities	CS Docket No. 02-52

Forced Access to Broadband Cable

Bruce M. Owen

Submitted on behalf of NCTA

June 17, 2002

Abstract

Most cable television systems in the United States have invested heavily in capital improvements that permit them to offer high-speed digital Internet access ("cable modem") services to subscribers. This service is widely available, and about 25 percent of households with Internet access have subscribed, either to the cable service or to competing Internet access services offered by local phone companies. Increasing the rate of adoption is a national priority.

The Federal Communications Commission (FCC) is presently considering whether to force cable operators to offer unbundled bandwidth and other related services to independent Internet Service Providers (ISPs). Such regulation would parallel the regulations already applied to the Internet access services offered by phone companies (which are also under review). This paper examines the costs and benefits for consumers of adopting a forced access policy for cable modem services.

The possible benefits of a forced access policy are that, if certain necessary conditions are met, it might encourage facilities-based competition in the provision of local transmission services, expand competition in the provision of value-added services associated with local broadband Internet access, or reduce opportunities for price discrimination. Among the necessary conditions for these benefits is the presence of established, otherwise intractable monopoly power on the part of cable operators. But in fact, cable operators already face facilities-based competition, not only in the provision of cable modem services, but even in their core market, video delivery. Thus, there could be no benefit for consumers from forced access. While the possibility exists that the necessary conditions for benefits might exist in the future, such speculation is not an adequate basis for regulation today in light of the costs imposed by regulation.

The costs of broadband access regulation fall into several categories: (1) direct costs of implementing access requirements; (2) distortions in resource allocation attributable to the creation of economic incentives to minimize the impact of regulatory constraints; (3) reductions in the willingness of regulated providers to make risky investments; (4) unintended side-effects with an adverse impact on groups whose interests are not adequately

represented in the policymaking process; (5) creation of rents that can be sustained only by the continuation of regulation, even after it has ceased to be beneficial to consumers. There are numerous examples in the FCC's experience of such costs appearing, often quite unexpectedly.

The likelihood of significant costs for consumers, taken together with the absence of benefits to consumers, suggests strongly that forced access regulation should not, on the merits, be applied to broadband cable services. Two other possible arguments in favor of such regulation have been put forward. One is that forced access regulation might be prudent in light of cable's current status as the leading provider of broadband residential services. Another is that such regulation might be warranted by the need to maintain "regulatory parity" between cable operators and the phone companies with which they compete. Neither argument supports forced access regulation as a policy beneficial to consumers.

If the FCC adopts a policy of forced access to broadband cable systems, the most likely result will be higher prices and slower adoption of broadband services by consumers. This would frustrate the national policy of promoting consumer acceptance of broadband as well as cause economic injury to consumers.

The author is president of Economists Incorporated and visiting professor of economics at Stanford in Washington. He is the author of *The Internet Challenge to Television* (Harvard University Press, 1999) and co-author of *Video Economics* (Harvard University Press 1993).

Introduction

1. This paper examines, from an economic policy perspective, several of the key issues raised by the Commission in its Declaratory Ruling and Notice of Proposed Rulemaking, "Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities," released March 15, 2002 (hereinafter, *Notice*). It concludes that an FCC requirement that cable operators provide access to independent Internet Service Providers (ISPs) is unwise because it would be more likely to reduce consumer welfare than to increase it. This conclusion is not affected by the existence of regulatory restrictions on the behavior of competing providers of broadband service, such as local telephone companies.[1]

2. Part I of this paper outlines the background, underlying assumptions and framework of my analysis. Part II contains the main body of the analysis. Part III provides a brief conclusion.

I. Background

3. The vast majority of consumers who connect their home computers to the Internet still do so over ordinary telephone lines using analog modems. However, digital "broadband" or "high speed" Internet connections are now a widely available alternative to analog modem connections.[2] Although digital connections are more expensive than analog connections, often costing two to four times as much, the higher speeds and other useful features of digital connections are sufficiently attractive that some

---

[1] I have written previously on this and related subjects. See, e.g., Bruce M. Owen, "Broadband Mysteries," in Robert W. Crandall, ed., *Should We Regulate High-Speed Access...?* Brookings Institution, (forthcoming 2002); Bruce M. Owen and Gregory L. Rosston, "Cable Modems, Access and Investment Incentives," report prepared for the National Cable Television Association (December 1998).

[2] Terrestrial wired high speed digital service is available to about 80 percent of all U.S. households. I use the terms "broadband," "high speed," and "digital" herein synonymously, and in contrast to "analog," always in the context of "last mile" communication.

home computer users (around 11 percent of all households, or just over 25 percent of those with Internet connections) have switched to digital Internet connections.[3]

4. Virtually all residential analog Internet connections are provided on facilities owned by local telephone companies ("incumbent local exchange carriers" or ILECs). Broadband Internet connections from residences to Internet backbones are provided chiefly by local wireline telephone companies and local cable operators. Cable offerings are often referred to as "cable modem" services. Telephone company offerings are often called "digital subscriber line" (DSL) services. High speed digital connections are also offered by wireless providers such as CMRS and satellite operators, but these media do not yet have significant market shares.[4]

5. Both industry and government have promoted increased consumer use of local high speed digital Internet access service. A number of interests other than telephone and cable companies stand to benefit from an increase in consumer use of broadband Internet access, among them the computer hardware and software industries and manufacturers of networking equipment.

6. The federal government has granted various concessions to promote broadband deployment, including favorable regulatory and tax treatment, and subsidies for certain customers, such as schools. I take as given for present purposes that it is a policy goal of the federal government to expand the consumption of broadband services.[5] This re-

---

[3] Based on First Quarter 2002 data, there are over 12 million broadband Internet users, of which 8.1 million have cable modems and 4.1 have DSL connections (source: NCTA). For earlier data, see *Notice* ¶ 9 et seq.

[4] Fixed wireless and mobile technologies such as 2.5G, 3G, LMDS, WLAN, IEEE 802.11a and b (WiFi), Bluetooth and the rest presently are not aimed at fixed residential broadband access needs, but may become available for that use as competition increases and prices drop. Indeed, the New York Times recently reported on a proposal to use WiFi for local broadband distribution. John Markoff, "2 Tinkerers Say They've Found a Cheap Way to Broadband," New York Times on the Web, June 10, 2002, http://www.nytimes.com/2002/06/10/technology/10WIRE.html. For a survey of technologies and business strategies, see Dave Molta, Mobile and Wireless Technology: The Survivor's Guide to 2002, TechWeb, December 17, 2001, http://www.networkcomputing.com/1226/1226f44.html.

[5] *Notice* ¶¶ 4, 73.

inforces the usual economic policy goal of maximizing output for the benefit of consumers.

7. As broadband service is now very widely available to American consumers, the focus of policy concern has shifted to the rate at which consumers are adopting the new services. While the rate of growth of new subscribers for these services has been significant, overall penetration remains at an early stage.

8. Demand for broadband Internet service can be increased in two ways: more attractive features and lower prices. Internet content providers, aggregators and portals (some of which are also vertically integrated Internet service providers or ISPs) are at work on new products that take advantage of broadband capabilities, but this is not an area easily affected by regulatory policy. In contrast, regulators can help make prices more affordable by promoting competition and by avoiding regulation that increases the cost of providing service.[6]

9. Cable operators and telephone companies now provide the bulk of broadband capacity, and compete for customers.[7] Both cable operators and telephone companies provide broadband Internet access services on the same facilities used to provide other services—chiefly video entertainment and voice messaging, respectively. Cable operator video delivery was formerly subject to rate regulation, and basic service rates still are, but today the cable industry faces competitive discipline from satellite providers of video entertainment services and other sources.

---

[6] A recent cross-country OECD study documents the adverse effects of regulation on the development of high tech growth sectors. Stefano Scarpetta, Philip Hemmings, Thierry Tressel, Jaejoon Woo, *The Role of Policy and Institutions For Productivity and Firm Dynamics: Evidence From Micro and Industry Data*, (*RePEc:oed:oecdec:329, 2002).*

[7] There is not yet complete overlap in the areas where the two competitors offer service, chiefly because DSL service currently is available to fewer households than have access to cable modem service. This difference in coverage, which will diminish over time, explains a large part of the current difference in the relative "market" shares of cable modem and DSL services. For marketing and other reasons, it appears to be impractical for either of the competitors to discriminate in price against those customers who do not yet have a choice of provider. This leverages the benefits of competition from areas where there is, to areas where there is not yet, a direct overlap.

10. ILECs are subject both to rate regulation and to unbundling requirements that reflect the industry's long regulatory and antitrust history as owners of monopoly "essential facilities," and the federal government's objective of promoting facilities-based entry in local telephone markets.[8]

11. The central economic issue in this proceeding is whether to require cable operators to provide "access" to independent Internet service providers. While such access might take any number of forms,[9] my analysis assumes that the Commission would apply essentially the same access regulations to cable operators that are currently imposed on local telephone companies. I refer to this as the "DSL regulatory model." These regulations require ILECs to offer "unbundled elements" of their local networks, including bandwidth on local loops, to resellers at wholesale prices reflecting "forward-looking incremental cost." In addition, consumer prices are subject to regulation. I assume that analogous regulations would be fashioned for cable companies in the event the Commission opted to force access to broadband cable systems.[10]

12. The assumption that forced access to cable modem services, if it occurred, would resemble current DSL regulation is not arbitrary. As with DSL, a mere access requirement for cable systems is likely to be meaningless in the absence of unbundling and maximum wholesale price regulation once the Commission comes face to face with

---

8 Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696 (1999), at 3745-50, ¶¶ 101-16; 47 C.F.R. § 51.317(b)(3).

9 *Notice* ¶ 74.

10 Some but not all elements of such a regime are spelled out in the AOL-Time Warner/FTC settlement. See *FCC AOL Time Warner Merger Order*, 16 FCC Rcd at 6588-92 ¶¶ 93-100 (prohibiting discrimination against unaffiliated ISPs, their first screens, their content, and the quality of service afforded to them); *America Online, Inc., and Time Warner, Inc.*, Federal Trade Commission, Docket No. C-3989, File No. 001 0105, Decision and Order §§ II, III (Dec. 14, 2000) (requiring access for a small number of unaffiliated ISPs and prohibiting interference with the content of unaffiliated ISPs). My view, for reasons explained in the text, is that in the face of complaints about access decisions the AOL consent order is but the first step on a slippery slope to full DSL-type regulation. The issue discussed in this paper is not very interesting if the proposed regulations did not require cable operators to do something they would prefer not to do. I am assuming for purposes of my analysis that forced access would be a binding constraint on cable operator behavior. As I point out below, however, the Commission does not seem to have found any evidence that cable operators are systematically denying broadband access to anyone, implying strongly that there is no need for forced access.

the need to adjudicate access complaints. If ISP access is desirable from a consumer welfare perspective and yet would not otherwise be available, I argue below that it must be because cable systems have very substantial market power in the relevant market, that alternatives are not available, that operators refuse to grant access, and that access would force cable operators to lower retail prices. In those circumstances any regulation less intrusive than current DSL-type regulation would be unlikely, even if the Commission began with a simple access requirement, because increasingly intrusive and detailed regulation would flow inevitably from the need to resolve access disputes, just as it did in telephony.

13. I further assume that DSL and like services offered by telephone companies will continue to be regulated more or less in the manner I have described. In a companion proceeding, the Commission is examining whether to reaffirm its policies in this area.[11] If one makes the contrary assumption (that DSL will be deregulated), clearly there exists little likelihood of cable modem regulation because any substantive policy rationale for DSL deregulation (e.g., a finding that the relevant market is sufficiently competitive) would also militate against regulation of cable modem services. Also, the ILEC "regulatory parity" argument for cable regulation disappears (actually, works in cable's favor) if DSL service is deregulated. This leaves the option of regulating cable modem services as the interesting case to analyze.

14. I express no view on the merits of DSL deregulation but I note that because of differences in the circumstances and history of telephone and cable providers, my conclusion that cable modem service should not be regulated is not necessarily applicable to DSL service. One significant economic difference in the circumstances of the two industries, for example, is that the major services co-produced on the same facilities as Internet access are, in the case of cable, faced with substantial facilities-based competition while in the case of local telephone service they are not.

---

[11] Appropriate Framework for Broadband Access to the Internet over Wireline Facilities CC Docket No. 02-33.

15. Mere resale can never create competition in the market for the product being resold.[12] When the courts mandated access or "resale" to monopoly bridges across the Missouri at St. Louis, for example, no one thought the purpose was to promote competition in local bridge service.[13] Instead, the purpose was to encourage competition in long haul rail service, to which the Missouri crossings were an essential input or component. To the extent that resale is accompanied by substantial value added, resale may permit competition in the provision of the value added services, which might otherwise be impossible. Thus, an access or resale requirement may be beneficial to consumers when the resold good or service is both "essential" (as described below) and a relatively small part of the final product, as with long distance telephone services and their access to local facilities.[14] ISP access to broadband cable services does not fit this model because there has been no showing by anyone that ISP access to cable modem services is essential to competition in any broader value-added market. Indeed, whatever the services might be that require such access lack even names.

16. In communication policy, the principal reason to insist on unbundling and resale of a communication service has been to facilitate a transition to facilities-based competition in that service. The notion is that an entrant planning to construct competitive facilities can do so in a more orderly and less expensive way if it can quickly begin offering service to all potential customers in a marketing area, using its competitor's facilities, where necessary, to supplement its own. The current regulation of DSL can best be understood in the context of efforts to encourage facilities-based competition in local telephone service, which, as noted, is produced on the same facilities as DSL.

---

[12] Justice Breyer has made this point in the analogous context of resale of local telephone facilities: "A totally unbundled world—a world in which competitors share every part of an incumbent's existing system, including, say, billing, advertising, sales staff, and work force (and in which regulators set all unbundling charges)—is a world in which competitors would have little, if anything, to compete about." *AT&T Corp. v. Iowa Utilities Board,* 119 S. Ct. 721 (1999) at 754 (Breyer, J., concurring in part and dissenting in part).

[13] *United States v. Terminal RR Ass'n,* 224 U.S. 383 (1912). For a revisionist history of the Terminal Railroad situation see David Reiffen and Andrew N. Kleit, "Terminal Railroad Revisited: Foreclosure of an Essential Facility or Simple Horizontal Monopoly?" 33 *J. of Law and Economics* 419 (1990).

[14] In addition, in some regulatory circumstances a resale requirement may be a practical device to prevent price discrimination or cross-subsidy, where that is a relevant policy goal.

17. I assume that the ultimate purpose of regulation is to benefit consumers. Therefore, proposed access regulations at the wholesale provider stage must be evaluated in the context of their effects on consumers. The only valid economic test of whether forced access to cable modem service should be mandated is the likely effect of such a policy on economic, and especially consumer, welfare. This principle is well-established nowadays in antitrust.[15] The Congress seems to have embraced a closely-related goal for communications policy. The preamble to the 1996 Telecommunications Act states that its purpose is to:[16]

> "promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."

18. As the Commission suggests (*Notice* ¶88), I organize my discussion in the spirit of cost/benefit analysis. However, I do not follow the suggestion that the relevant comparison is between the benefits of an access requirement for consumers and the costs of an access requirement for cable operators. Ultimately, all the costs and benefits are felt by consumers, and it is the present and future costs and benefits of regulation for consumers that should guide policymaking.

---

[15] See the expression of this view in, for example, *NCAA v. Board of Regents*, 468 U.S. 85, 107 (1984) and *Reiter v. Sonotone Corp*., 442 U.S. 330, 343 (1979). Professor, now Justice, Stephen G. Breyer discusses applications of this idea to regulated industries in "Antitrust, Deregulation, and the Newly Liberated Marketplace," 75 *California Law Rev.* 1005 (1987).

[16] Telecommunications Act of 1996, Pub. L. No. 104-104, preamble, 110 Stat. 56, 56.

II. Discussion

A. Should cable modem services be regulated on the merits?

19. Neither market competition nor regulation is ever perfect. Although this country has long had a presumption in favor of market solutions, very imperfect markets present policymakers with a choice between poor market outcomes and regulatory intervention. This choice can be approached from a cost-benefit perspective. As a matter of logic, regulatory intervention may be justified when it effectively reduces the adverse welfare consequences of a market failure without introducing more than countervailing welfare losses.

20. In the present matter, presumably, the possible market failure is some species of distortion attributable to the exercise of market power by cable operators. Consumer welfare benefits might flow from the reduction or elimination of such a distortion. I begin with that potential benefit, postponing until later the discussion of regulatory costs.

Benefits of Regulation

21. In assessing market power, its consequences and remedies, the Commission can learn from the 113-year experience of competition policy enforcement, which has long confronted nearly identical issues. The analogy between the forced access issue and the so-called "essential facilities doctrine" is unavoidable.[17] One need not conclude that the Commission is bound to follow antitrust precepts in order to accept the proposi-

---

[17] It is noteworthy that the Supreme Court in the Iowa Utilities case acknowledged the analogy between the essential facilities doctrine in antitrust and the Commission's access policies in telephone service. *AT&T Corp. v. Iowa Utilities Board,* 119 S. Ct. 721 (1999) at 734-36. Professor Hovenkamp sees this analogy as inescapable: "The principal purpose of the 1996 Telecommunications Act is to deregulate, and deregulation can be accomplished only by minimizing the occasions for regulatory supervision. Competition requires that inputs economically capable of being supplied competitively—that is, by numerous independent sources—be supplied in that manner. Forced sharing of such inputs acts as a disincentive to producing them competitively in the first place and exacerbates and prolongs agency supervision." Phillip E. Areeda and Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application* 787′c, at 247 (Supp. 1999). See also Jerry A. Hausman and J. Gregory Sidak, "A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks," 109 *Yale Law Jour.* 417 (1999).

tion that the Commission can find the experience of competition policy instructive. Indeed, just a few weeks ago, the D.C. Circuit suggested that the essential facilities doctrine "may … offer useful concepts for agency guidance" to the Commission in the analogous context of access to local telephone facilities.[18]

22. The essential facilities doctrine is relevant because it deals with the circumstances in which forced access is a useful remedy for a situation where the vertically-integrated owner of a bottleneck facility uses its monopoly of that facility to exclude competitors from an upstream or downstream market.[19] The remedy (forced access, or equivalently, forced unbundling and resale) is precisely the one that the Commission is considering in this proceeding. The interesting question, then, becomes whether the underlying problem for which the remedy is proposed meets the standards that courts and commentators have set as justifying the remedy on the basis of costs and benefits to consumers. While the Commission may not, as a legal matter, be required to accept these standards, in rejecting them it should be able to explain why its own analysis of the costs and benefits leads to a different conclusion.

23. Forced access (unbundling and resale) is regarded as an extraordinary remedy in monopoly cases because it requires on-going supervision of technical production decisions and regulation of prices, because it risks raising production costs and hence retail prices, and because it may have adverse spillover effects on the investment decisions of parties and nonparties alike. As Justice Breyer (supra, n.12) observes, "Even the simplest kind of compelled sharing, say, requiring a railroad to share

---

[18] *United States Telecom Association v. FCC,* D.C. Circuit, decided May 24, 2002, slip opinion at note 4.

[19] Bruce M. Owen, "Determining Optimal Access to Regulated Essential Facilities," 58 *Antitrust Law Journal* 887 (1989). The doctrine is discussed recently in, for example, Abbot B. Lipsky and J. Gregory Sidak, 51 *Stanford Law Review* 1187 (1999). I must note that there is much greater uniformity of opinion about the proper scope and application of the doctrine among scholars than there is in the case law. See Philip Areeda, "Essential Facilities: An Epithet in Need of Limiting Principles," 58 *Antitrust Law Journal* 841 (1990). The essential facilities doctrine was applied to local exchange access by the Seventh Circuit in *MCI Communications Corp. v. American Telephone & Telegraph Co.*708 F.2d 1081 (7th Cir. 1983). That decision required "(1) control of the essential facility by a monopolist; (2) a competitor's inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility" for the doctrine to apply. (Id. at 1132-33).

bridges, tunnels, or track, means that someone must oversee the terms and conditions of that sharing. Moreover, a sharing requirement may diminish the original owner's incentive to keep up or to improve the property by depriving the owner of the fruits of value-creating investment, research, or labor."

24. A market power problem justifying such a drastic remedy as forced access must be truly a bottleneck—an entrenched, long term, otherwise intractable monopoly, and accompanied by ample evidence that the power has been abused with adverse effects on consumer welfare. Further, the situation must be one in which access can have a positive effect on consumer welfare, such as facilitating a transition to facilities-based competition or facilitating competition in products or services of which the monopolized component is a relatively small part. The standard for market power in essential facilities cases is the highest one that exists in competition policy.

25. Do cable operators have "bottleneck" market power in providing local broadband cable modem service? If so, is there evidence that the market power is used to exclude more efficient competitors or to raise consumer prices in either upstream or downstream markets? These questions must be answered affirmatively if forced access is to make economic sense. These questions should seem odd, because they both have obvious answers. Because there are significant competitive alternatives, cable operators by definition do not possess a "bottleneck" monopoly over anything. And, far from foreclosing competition in upstream or downstream markets, no one has even identified the products, services or markets from which foreclosure could take place, or identified either a refusal of access or an economic incentive to refuse access.

26. In any event, the Commission has already, as a practical matter, answered both of the preceding questions in the negative. Cable operators face facilities-based competition in the provision of broadband cable modem services from telephone companies and others.[20] Additional facilities-based entrants using various RF technologies are likely

[20] *Notice* ¶ 9.

in the next few years.[21] Consumers also have choices other than cable modem or other high-speed services that some still greatly prefer and others find to be good substitutes for broadband at current prices, standard 56k analog "dial-up" service probably chief among them. The local broadband Internet access service industry has existed only for a few years, and is still in a fluid state both as to technology and as to market structure. "…[T]he cable modem service business is still nascent, and the shape of broadband deployment is not yet clear." (*Notice* ¶ 83.) These are *not* the characteristics of a monopolized market, much less an essential facility market.

27. The Commission has found no evidence that any broadband cable subscriber has been excluded from using the services of any Internet content provider or any ISP. Because subscribers are connected to the Internet, they can "click through" to any content provider. ("We are not aware of any cable operator that prevents subscribers from reaching the content of their choice." Notice at n. 45. "[W]e are unaware of any allegation that a cable operator has denied "click through" access to other ISPs." Id. at ¶ 87). They can subscribe to the services of content aggregators, such as AOL, often at lower prices reflecting their "BYO" Internet access.[22] Subscribers using either of the major browsers can choose their own home pages, and need not use one supplied by the cable operator.

28. There is empirical evidence (beyond the mere existence of competitors with substantial market shares) that cable operators do not have the requisite degree of market power in supplying broadband services. Rappoport, et al. report an econometric demand study that found that the demand (by subscribers for high-speed Internet access service) facing broadband cable operators was own-price elastic and cross-price elas-

---

[21] See n. 4 and http://standards.ieee.org/announcements/80216app.html, http://www.ieee802.org/16/pub/backgrounder.html.

[22] AOL current charges $23.90 per month for a standard dial-up subscription in which it supplies the Internet connection. In contrast, AOL subscribers who "bring their own" Internet access via a cable modem, DSL connection or corporate LAN are charged only $ per month.

tic with DSL services.[23] A more recent study commissioned by SBC Communications, Inc. updated the Rappoport study, confirming elastic demand for cable modem service and significant cross-elasticity with DSL service.[24] In any event, the fact that there are two full-fledged broadband competitors at present, with more on the horizon, should be sufficient by itself to remove broadband cable service from the essential facilities category and thus from the forced access remedy.

29. Given current competition in providing broadband Internet access services, the question of forced access does not even get to first base in an analysis of potential costs and benefits under essential facilities analysis because there is no essential facility. Specifically, Internet content providers, aggregators, and ISPs have alternative ways to reach consumers, and consumers have alternatives to cable modems. These alternatives will likely increase in number.[25] Cable operators could not and do not exclude competitors in upstream or downstream markets.

30. If there is no present economic policy case for forced access requirements, might such regulations be a prudent precaution against future problems? Any new industry as it matures may begin to display increased concentration, heightened entry barriers and a slowing of technological change. Incumbent firms may gain market power or even monopolies. But such an outcome is by no means inevitable, and it makes no sense to apply essential facilities regulation prophylactically because to do so would penalize—and therefore discourage—efforts to achieve early success in young and dynamic industries.[26]

---

[23] Paul Rappoport, Don Kridel, Lester Taylor & Kevin Duffy-Demo, "Residential Demand for Access to the Internet," University of Arizona Working Paper, Spring 2001, at Table 10; *see also* Paul Rappoport, Don Kridel & Lester Taylor, "An Econometric Study of the Demand for Access to the Internet," in *The Future of the Telecommunications Industry: Forecasting and Demand Analysis,* Loomis & Taylor eds., Kluwer Academic Publishers (1999).

[24] Robert W. Crandall. J. Gregory Sidak, and Hal J. Singer, "The Empirical Case Against Asymmetric Regulation of Broadband Internet Access," (SSRN 2002).

[25] See n. 4, supra.

[26] See the OECD study cited at note 6, supra.

31. One of the puzzles in the debate about forced access to broadband cable facilities is what such access would accomplish for ISPs that simple IP interconnection (directly or via the Internet) would not provide. One possible answer appears to be a direct or personal relationship with customers that is *exclusive*, i.e., one that excludes the cable operator. But this cannot be taken seriously in the abstract as a *necessary* condition for business success, as required by essential facilities analysis. Plenty of consumer services companies have relationships with their customers that are intermediated by third parties (postal and package delivery companies, telephone and mass media, and independent dealers and retailers of all varieties) without apparent adverse effects.

32. The concept of ISP access through transparent unbundling and resale of local transmission service could never make sense (even if the essential facility conditions were met) if the only result were a resale market in the essential service itself. To justify an access requirement, the ISP demanding access must be in the process of constructing competing facilities (so far as I know none are) or planning to use the local transmission component as a vehicle for the sale of much more important complementary services, such as high bandwidth Internet content, aggregation or portal features, or some other as yet unnamed, undefined product. Even if such a product had been defined, one must ask whether the cable operator has denied such access, and if so for any reason related to market power (as opposed to technology or cost issues), or has any incentive to do so in spite of resulting losses in economic efficiency.

33. So far as I am aware, no cable operator has ventured into the non-local-transmission aspects of ISP service except as a means to jump start subscriber demand for their transmission services. The fact is that the earliest efforts to offer content and aggregation services that took advantage of broadband speeds were organized, not by independent ISPs, but by firms owned by cable operators.[27] These efforts took place in the face of the failure of independent suppliers of such services to come forward, and certainly have not resulted in any market power or dominance, as witnessed by the bank-

[27] *Notice*, ¶ 21.

ruptcy of @Home, once the leading cable-owned provider. In other words, cable operators' so-far-not-very-successful efforts to offer upstream services tailored to the special features of broadband are better understood as attempts to remedy the failure of independent ISPs and content providers to provide such service than as an attempt to monopolize or foreclose any market.

34. One can imagine hypothetical situations in which a provider offering services not offered today might benefit from physical interconnection with and transparent resale of the capacity of "last mile" distributors, rather than mere IP backbone interconnection. But there is no reason to *assume* that if such a situation arose, the ISP and the cable operator could not reach a mutually advantageous agreement beneficial to subscribers. It is not reasonable for the Commission to impose access regulation in advance of such a situation becoming reality. The regulations could only have costs, and no benefits, until or unless the relevant situation arises. Further, since the relevant circumstances are speculative and outside the Commission's current experience, the particulars of the access requirements would likely be inappropriate to the actual need if it did arise.

35. The benefit (if any) of regulation of cable modem service is the potential consumer welfare gains from reducing the distortions caused by monopoly power. My conclusion from the preceding analysis is that there is no case for DSL-type regulation (i.e., essential facility regulation) of broadband cable services. There simply are no benefits for the public from the adoption of such regulation, because there is no conceptual or empirical evidence of any monopoly power or any distortion. Not a single one of the necessary conditions for essential facility treatment of broadband cable is met, implying that the weight of experience from more than a century of weighing costs and benefits of forced access militates strongly against such intervention. Whether the necessary conditions for essential facility regulation will exist in the future is an entirely speculative question; certainly there is no case for the imposition of regulation now.

Costs of Regulation

36. I turn now to the potential costs of imposing access regulation on broadband cable services. The costs of broadband access regulation fall into several categories: (1) direct costs of implementing access requirements; (2) distortions in resource allocation attributable to the creation of economic incentives to minimize the impact of regulatory constraints; (3) reductions in the willingness of regulated providers to make risky investments; (4) unintended side-effects with an adverse impact on groups whose interests are not adequately represented in the policymaking process; (5) creation of rents that can be sustained only by the continuation of regulation, even after it has ceased to be beneficial to consumers.

37. The most obvious potential costs of forced access are the direct costs of implementing access requirements. These costs arise from the need to reconfigure facilities and operating procedures to meet the access conditions established by regulation.[28] These costs are borne ultimately by consumers, in higher prices, whether or not cable operators are compensated by ISPs.

38. A regulation that takes the form of a binding constraint on economic behavior invites adjustment by the entity being regulated, with the aim of easing or eliminating the effects of the constraint. Just as it is a rare tax rule that cannot, to some extent, be avoided, its impact reduced through adjustments in one's fiscal arrangements, the same is true of economic regulation. Perhaps the most famous and best-studied example is rate-of-return regulation. In the days when the Commission attempted to prevent telephone companies from charging monopoly prices by constraining their rate of return on capital, one of the costs may have been a serious distortion in the choice of technology, favoring excessively capital-intensive methods.[29] Another cost of rate-of-return regulation was that it gave telephone companies the incentive and opportunity to engage in permanent predatory pricing as a means to exclude competi-

---

[28] For example, see *Notice* at ¶¶ 15, 29.

[29] For a discussion of this "Averch-Johnson effect," see, e.g., Edward Zajac, "A Geometric Treatment of Averch-Johnson's Behavior of the Firm Model," 60 *American Economic Review* 117-125 (1970).

tors.[30] Neither of these costs was recognized until rate-of-return regulation had been in place for the best part of a century. Once the problem was finally recognized, the Commission moved to replace rate-of-return regulation with price cap regulation.

39. Without suggesting any attempt at evasion,[31] a broadband access constraint on cable systems would give operators incentives to minimize its impact. It is difficult or impossible to predict in advance what the effects of these incentives would be, but there is no reason to think that the costs of the resulting distortions would be small.

40. In a paper submitted to the Commission in 1998, Greg Rosston and I explained how forced access requirements could adversely affect investment incentives, leading to reduction in the willingness of regulated providers to make risky investments.[32] Today, in 2002, very substantial broadband cable investment (in the form of updated cable plant) has already taken place. The point that Rosston and I made remains relevant, however, because it is the systems and subscribers that have not yet been updated to broadband that, as a logical matter, promise the lowest returns on investment. These are precisely the subscribers most likely to face delayed or denied access to broadband services if access regulations lower the expected profitability of upgrade investments. Further, upgrading a cable system to permit broadband Internet access services is not a once-and-for-all investment. Not only must the plant be continuously updated as technology advances, but growing use of broadband service will require continuous investment in smaller nodes in order to maintain quality of service standards. Finally, offering broadband Internet access requires cable operators to do more than invest in physical plant. To stimulate consumer demand for cable modem service, cable operators will have to invest in demand-enhancing complementary features, such as content that takes advantage of broadband capabilities. Operators'

---

30 Roger G. Noll and Bruce M. Owen, "United States v. AT&T: The Economic Issues," in John Kwoka and Lawrence White, eds., *The Antitrust Revolution,* Scott Foresman, (1988); 2nd ed. (1994).

31 I adopt here the "evasion/avoidance" distinction so well-known in tax law enforcement. Avoidance, unlike evasion, is a lawful and rational response to the incentives created by public policy.

32 Owen and Rosston, n. 1, supra.

incentives to invest in such demand-enhancing features is likely to be reduced by forced access requirements because of the spillover and free rider effects that Rosston and I described.

41. Unintended side-effects with an adverse impact on groups whose interests are not adequately represented in the policymaking process abound in regulated industries. The Congress and the courts have quite deliberately established policymaking machinery that provides substantial voice to economic interest groups. As in this very proceeding, regulators rely heavily on the participation of such groups to acquire information. The effectiveness of these groups varies widely. As Mancur Olson has explained, groups with diffuse interests that face high costs of organizing and free rider problems are likely to be less effective than groups that lack these disabilities.[33] Consumers comprise the classic interest group whose interests are less effectively represented in this process. Where an industry group would provide analysis and information that would help avoid regulations with unintended adverse effects, consumers lack such voice.

42. The Commission need look no further than its own experience with cable rate regulation for examples of unintended consequences and adverse effects on consumers, both well-documented by economic analysis.[34] The price regulation undertaken by the Commission under the 1992 cable act led to reductions in program offerings and a quagmire of increasingly detailed interventions and patches until repealed as part of the 1996 reforms.

43. Returning to the question of forced access to cable modem systems, the risk is that the Commission, in the absence of vigorous and effective participation by consumers, will adopt rules that inadvertently harm those interests. Of course, any Commission

---

[33] Mancur Olson, *The Logic of Collective Action : Public Goods and the Theory of Groups,* rev. ed., Harvard University Press (1971).

[34] For independent analyses see Robert W. Crandall and Harold Furchtgott-Roth, *Cable TV: Regulation or Competition?* Brookings Institution (1996), Thomas W. Hazlett and Matthew L. Spitzer, *Public Policy Toward Cable Television,* American Enterprise Institute (1997), and Hudson Institute, *The Role of Competition and Regulation in Today's Cable TV Marketplace* (1998).

intervention carries this risk and its potential costs. Nevertheless, it is a risk that must be weighed against any potential benefits of regulation. Non-intervention is less risky in this respect because it is far more easily reversed.

44. The final potential cost of forced access to broadband cable is associated with the creation of rents that can be sustained only by the continuation of regulation, even after it has ceased to benefit consumers. The problem here is that a regulation can both create and destroy economic rents, and its effects on rents can change over time as circumstances change. As conditions change, the regulation may no longer generate net benefits for consumers—in other words, consumers may subsequently be better off in a market that has no regulatory constraint. It may nevertheless be difficult to repeal the regulation because to do so would destroy rents enjoyed by those economic interests originally protected (or created) by the regulation.[35] Both in practice and in principle, the administrative process exists to protect the status quo; it takes a considerable effort to overcome such an inertial force. As I pointed out above, consumer interests often lack the organization or resources to make such an effort. In the present case, the danger is that regulations designed to facilitate access by independent ISPs will later provide those same ISPs with a vested interest in and therefore a strong incentive to defend vigorously what may become a special treatment that protects them from competitive challenges.

45. Realism requires recognition of the fact that unintended effects are hard to predict and regulatory interventions are difficult to remove even when there is ample evidence that they harm consumers. Markets, in contrast, can change and adapt much more quickly to changed circumstances.[36] This is true whether or not particular interventions have immediate benefits that exceed costs. It is not a sufficient reason to counsel against any intervention. But it is sufficient reason for healthy skepticism of interven-

---

[35] For an elaboration of this point, see Roger G. Noll and Bruce M. Owen, T*he Political Economic of Deregulation*, American Enterprise Institute (1983), chapters 1-3.

[36] It is instructive to compare, for example, the rate at which digital technology permeated non-regulated sectors of the economy with the speed at which digital broadcasting has arrived.

tions that are not justified by very strong evidence of palpable and immediate consumer benefits.

46. In the case of forced access to cable modem facilities, none of the costs, not even the direct ones, can be adequately quantified until some specific proposal is advanced. But the near certainty of at least some costs should compel the Commission to identify tangible and immediate benefits in order to justify regulation. As I have argued above, such benefits are unlikely because, as Commission has found, nothing "bad" has in fact happened or seems likely to happen, and because effective facilities-based competitors already exist.

B. Should access be regulated if cable is the "Leading Provider" of local broadband Internet access?

47. The Commission, noting that cable at present has a larger number of broadband Internet subscribers nationwide than DSL, asks whether forced access is desirable in light of cable's current status as the "leading provider" of broadband access to the Internet. (*Notice* ¶¶ 78, 85) There is nothing sinister about the label "leading provider." Every market has a "leading provider." Some "leading providers" have market shares that are modest and face extensive competition from existing and potential competitors. Some "leading providers" achieve their status blamelessly, by superior efficiency, foresight and industry. Thus, "cable operators' current status as the leading providers of residential broadband services" has no relevance at all to the merits of forced access unless that status can be shown to translate into monopoly power in the relevant market for bottleneck services—so much and such intractable monopoly power as to make worthwhile the risks and costs of regulation, discussed above.

C. Should cable modem service be regulated as a matter of parity?

48. Telephone company DSL services are currently subject to the unbundling and wholesale price regulation regime that applies to local POTS. Telephone companies argue that this regulation should be withdrawn, but that if it is not withdrawn, similar regulation should be applied to cable modem services with which DSL competes. The apparent unfairness of regulating one competitor but not the other is called the

"regulatory parity" issue. (*Notice* ¶ 85) Unfair or not, however, the Commission must put the interest of consumers first. The pursuit of parity cannot be a legitimate policy goal if it entails a sacrifice of consumer welfare, as it almost certainly does. It is perfectly possible, at least as a logical matter, that a regulatory policy with the apparent or immediate effect of favoring one class of competitors over another may produce better results for consumers than a policy that meets the criteria (whatever they may be) for "regulatory parity."

49. To begin the analysis, assume hypothetically that DSL regulation has the effect (despite facilitating desirable future facilities-based competition) of raising the costs of providing DSL service, or reducing quality of service, or decreasing telco investment incentives. Assume further that an unintended side effect of this is to make DSL temporarily a less effective competitor to cable.[37] Do these assumptions lead to the conclusion that regulatory "parity" would make consumers better off?

50. The logical implication of the preceding assumptions, from an economic perspective, is that the price of DSL service and therefore the price of its substitute, cable modem service, will in competition be higher than otherwise. Other things equal, higher DSL prices lead to higher equilibrium cable modem prices. Still, it appears also to be the case that DSL service and cable modem service are substitutes and that they compete in the same market. For example, the Commission has stated that "[t]he main competitor to cable in the market for residential high-speed Internet services is currently DSL."[38]

51. The only empirical study of the issue of which I am aware led to the conclusion that DSL service provides effective competition to cable.[39] Still, DSL competition would be even more "effective"—DSL would have a higher market share, and both prices

---

[37] As noted above, I express no opinion on the validity of these assumptions.

[38] Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and American Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, CS Dkt. No. 00-30, 16 F.C.C. Rcd. 6547, ¶ 65 (2001).

[39] See Crandall et al., n. 23, supra.

might be lower or service improved—if DSL regulation were removed. Thus, if the factual assumptions above are correct, analysis leads to the conclusion that DSL regulation, at least in the short run, leads to a "second best" outcome. Could it be that regulation of broadband cable provides a possible remedy? Could imposition of such regulation move the market back toward a more efficient outcome?

52. The answer, clearly, is no. Whatever aspects of DSL regulation (by assumption) increase telephone company DSL costs or reduce DSL quality or lower DSL investment incentives would surely produce the same results when applied to cable systems. The effect simply would be to increase the costs (or reduce the quality) of both services, moving to consumers away from, not toward, a better outcome. Other things equal, equilibrium cable modem prices will increase if the cost of providing service increases, and that in turn will further increase the profit-maximizing price of substitute services such as DSL.

53. My principal point is that if two or more suppliers are supplying competing services, whatever their technologies or regulatory categories, there can be little or no justification for regulation of either. I recognize that having only two competitors does not necessarily lead to a perfectly competitive outcome. Still, the presence of some effective competition eliminates any presumption that regulatory intervention can produce consumer benefits. But if some reason exists to regulate one mode, despite the costs and risks of doing so,[40] that provides no reason to regulate both suppliers.

54. I take it that the principal rationale for regulation of DSL service has been the expectation that such regulation would promote facilities-based competition in wireline telephony. There is no need to resort to the DSL model to regulate cable in order to encourage facilities-based competition in cable services (whether video or Internet access). Cable already faces video competition from DBS, and is likely to face video competition from other media in the future. Cable already faces competition in digital

---

[40] Again, I do not wish to imply a position on the merits of DSL regulation.

services from DSL and is likely to face competition from other technologies in the future. Thus, the DSL regulatory model is inapplicable to broadband cable services.

55. The parity issue also can be approached from a different perspective. Assume that the purpose of regulation is to benefit consumers. Imagine, in general, that the Commission finds a set of regulatory policies that seem likely to succeed in maximizing consumer welfare. But suppose that these particular policies—the ones that most benefit consumers—do not happen to display "regulatory parity." It follows that any attempt by the Commission to achieve regulatory parity must be at the expense of consumers. Because parity is not part of the particular policy formulation that maximizes consumer welfare, any policy formulation of which parity is a part must produce less, perhaps much less, consumer welfare. It would be coincidental for welfare-optimizing policies to display regulatory parity. (Parity obviously is *not* one of standard marginal-social-cost-equals-marginal-social-benefit criteria for economic efficiency and welfare maximization.) Many would regard it as unseemly for the Commission to sacrifice consumer welfare in order to pursue a Platonic ideal of regulatory parity in the treatment of corporate interests.

Conclusion

56. If the FCC adopts a policy of forced access to broadband cable systems the most likely result will be higher prices and therefore slower adoption of broadband services by consumers. This would frustrate the national policy of promoting broadband diffusion as well as causing economic injury to consumers.